

TRANSMITTAL LETTER			Docket No. 0111453.00125US1
Application No. 09/586858-Conf. #8377	Filing Date June 5, 2000	Examiner S. P. Siefke	Art Unit 1743

Applicant(s): Avery OSGOOD et al.

Invention: METHOD AND APPARATUS FOR WASHING AND DRYING PINS IN MICROARRAY SPOTTING INSTRUMENTS


TO THE COMMISSIONER FOR PATENTS

Transmitted herewith is a Pre-Appeal Brief Request for Review as well as a Notice of Appeal in the above-identified application.

The fee has been calculated and is transmitted as shown below.

CLAIMS AS AMENDED					
	Claims Remaining After Amendment	Highest Number Previously Paid	Number Extra Claims Present	Rate	
Total Claims		- 20 =		x	
Independent Claims		- 3 =		x	
Multiple Dependent Claims (check if applicable) <input type="checkbox"/>					
Other fee (please specify): Extension for response within second month; Notice of appeal					950.00
TOTAL ADDITIONAL FEE FOR THIS AMENDMENT:					950.00

- ☒ Large Entity ☐ Small Entity
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Dated: August 3, 2005

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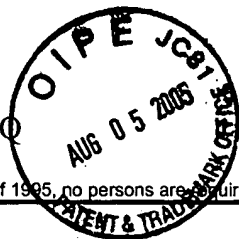
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PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)

111453-125

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on 08/03/05Signature Jody BegleyTyped or printed name Jody Begley

Application Number

09/586,858

Filed

June 5, 2000

First Named Inventor

Osgood

Art Unit

1743

Examiner

Siefke

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

- ☐ applicant/inventor.
- ☐ assignee of record of the entire interest.
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.
(Form PTO/SB/96)

- ☐ attorney or agent of record.
Registration number _____

- ☒ attorney or agent acting under 37 CFR 1.34.
Registration number if acting under 37 CFR 1.34 35,761

Signature

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08/03/2005

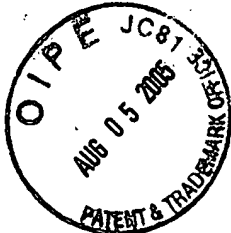
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NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

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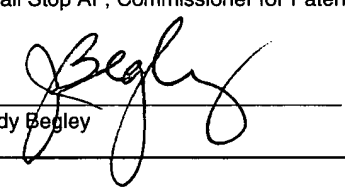
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
(Attorney Docket No. 111453.125)

Applicants: Osgood et al.) Examiner: Siefke
Serial No. 09/586,858) Art Unit: 1743
Filing Date: June 5, 2000)
For: METHOD AND APPARATUS FOR WASHING AND DRYING PINS IN
MICROARRAY SPOTTING INSTRUMENTS

CERTIFICATE UNDER 37 C.F.R. § 1.8(a)

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Jody Begley

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PRE-APPEAL BRIEF REQUEST FOR REVIEW

In a final office action issued March 17, 2005, the Examiner rejected each of pending claims 1-4, 6-18 and 102-133 under 35 U.S.C. § 102(a) as being anticipated by WO 99/36760 (the '760 reference), and under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,428,752 issued to Montagu (the Montagu reference). For the reasons set forth below, each of these rejections should be withdrawn.

There are three independent claims in this application: 1, 102, and 118.

I. Independent Claim 1 and Dependent Claims 2-4 and 6-18

Independent claim 1 of the application is directed to a method of washing and drying a pin of a microarray spotting instrument. The method includes the steps of moving the pin to a given position, washing the pin while in the given position, and drying the pin without substantially moving the pin from the given position. The claim specifies that the pin is washed by impinging the fluid depositing tip of the pin with at least one stream of wash fluid.

The '760 and Montagu references are related and cited for essentially the same disclosure. Both references disclose a spotting instrument having a pin and supply ring mechanism. As shown in Figs. 3A-3D of the Montagu reference and Figs. 9A-9D of the '760 reference, a pin 12 is surrounded by a supply ring 14. In use, the supply ring is immersed in the well of a supply plate, and fluid is retained in the ring. The tip of the pin 12d, which has a sharp rim indicated by reference number 12f, is moved through the ring to pick up some of the fluid in the ring to be deposited. *It is significant to note that the references consider the "tip" of the pin to be the end of the pin and indicated in several figures by reference number 12d where the sharp rim of the pin is located.*¹

A cleaning station for cleaning the pin and supply ring mechanism is shown in the cross-sectional view of Fig. 7 of Montagu (reproduced below) and Fig. 9G of the '760 reference. As shown, an annular nozzle 200 transmits fluid for washing the pin 12 and the supply ring 14.

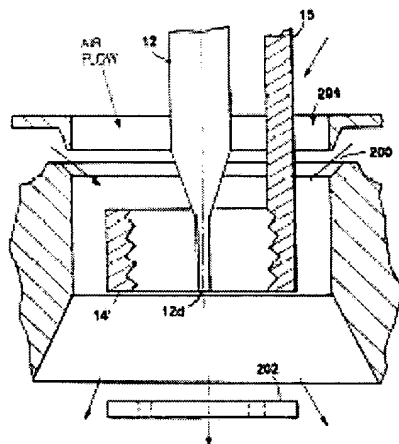


FIG. 7

Claim 1 of the present application is not anticipated by either the '760 or Montagu references because neither reference discloses (or even suggests) “washing said pin ... by impinging a fluid depositing tip of said pin with at least one stream of wash fluid.” Montagu and the '760 reference disclose directing fluid against a pin. However, the references only disclose

¹ See, e.g., the Montagu reference: Figs. 3A-3D, 4, 4A, and 7; and col. 9, lines 33-34 (“Deposit pin 12, having a sharp rim 12F at its tip ...”) and 45-46 and col. 13, lines 33-34 (“pin tip 12d”). See also, the '760 reference: Figs. 1, 2A, 2B, 3, 9, 9A-9D, 9G and 20; and page 24, lines 29-30 (“Tip 12d has sharp rim 12f...”), page 30, lines 1-2, and page 32, lines 30-34 (“deposit pin 12 comprises a relatively large body 12a and a lower portion 12b of reduced dimension that leads to deposit tip 12d having sharp rim 12f”).

directing fluid at the body of the pin, not the tip of the pin. The fluid may run down the body of the pin toward the tip, but the fluid does not impinge against the fluid depositing tip of the device, as specified in claim 1. For example, the Montagu reference states in col. 2, lines 34-39, that there is “a cleaning station [that] comprises a fluid jet arranged to blow down along the length of the deposit device toward its drop depositing end.” (emphasis added). Thus, rather than impinging the fluid depositing tip of the pin as specified in claim 1, the cited references only disclose flowing fluid along the length of the device in a direction towards the tip. As noted above, Montagu and ‘760 references identify the tip of the pin 12 by reference numeral 12d and indicate that tip has “a sharp rim 12F.” (Montagu, col. 9, lines 33-36). There is simply no impingement, i.e., striking, of this tip of the pin by wash fluid in Montagu or the ‘760 reference.

Additionally, Montagu and the ‘760 references do not even suggest impinging the pin tip with wash fluid. It appears that this is not possible in the wash station disclosed in the references because the presence of the supply ring as shown in the figure reproduced above would prevent any impingement of the pin tip with fluid from the nozzle. In particular, the location of the supply ring 14’ relative to the nozzle 200 and the pin tip 12d would apparently block fluid from the nozzle 200 from impinging, i.e., directly striking, the fluid depositing tip of the pin 12d. The Montagu and ‘760 reference wash stations are designed to wash both the pin and the supply ring, and fluid from the nozzle would apparently flow through the supply ring and flow down the length of the pin toward the pin tip 12d. Fluid from the nozzle accordingly cannot simply bypass the ring and directly impinge the pin tip.

Therefore, because Montagu and the ‘760 reference do not disclose or suggest “washing ... by impinging a *fluid depositing tip* of said pin with at least one stream of wash fluid” as specified in independent claim 1, the Examiner’s rejection of claim 1 should be withdrawn. Claims 2-4 and 6-18 depend from claim 1 and are therefore also allowable over the cited references.

II. Independent Claim 102 and Dependent Claims 103-117

Independent claim 102 is directed to a method for washing and drying a pin of a microarray spotting instrument. The method features drying the pin by flowing air past the pin with the air being of a lower humidity than air in an enclosure containing the spotting instrument.

The air having the lower humidity is introduced into the enclosure from outside the enclosure.²

Claim 102 is not anticipated by the cited Montagu and '760 references because the references only teach that air used for drying pins can be heated. There is no teaching or suggestion that the air used for drying be of a lower humidity and be introduced into an enclosure containing the spotting instrument.

The office action offers no explanation as to how the cited references disclose incoming air (much less incoming air of lower humidity) being introduced into an enclosure containing the spotting instrument. Montague discloses an enclosure around the arrayer as shown in Fig. 6 of the reference. This enclosure is designed to provide a controlled spotting environment to avoid contamination. (col. 15, lines 22-31). There is no disclosure of air for drying pins being introduced into the enclosure. In fact, the reference teaches away from introducing air into the chamber by stating the enclosure is used to provide a controlled environment.

Thus, the cited references do not disclose or suggest “drying said pin ... by flowing air past said pin, said air being of lower humidity than air in an enclosure containing the spotting instrument, said air having lower humidity being introduced into said enclosure from outside said enclosure” as specified in independent claim 102. The rejection of independent claim 102 should therefore be withdrawn. Claims 103-117 depend on claim 102, and are therefore also allowable over the cited references.

III. Independent Claim 118 and Dependent Claims 119-133

Independent claim 118 is directed to a method of washing and drying a pin of a microarray spotting instrument. The method includes the steps of washing the pin with a wash fluid while applying a vacuum to remove wash fluid previously applied to said pin. The step of drying includes applying a vacuum to draw air past the pin. The claimed method is neither disclosed, nor suggested by the cited references. The Examiner is apparently taking the position that these steps are disclosed by use of a vacuum pump disclosed in the references (page 44, lines 1-18 of the '760 reference and col. 10, lines 18-20 of the Montagu patent). However, the

² As described in the specification of the present application, e.g., on page 19, the environment inside the microarray spotter enclosure generally has a controlled humidity. The vacuum drying process is made quicker and more effective by using air for drying that is introduced into the enclosure and that is of lower humidity than air within the enclosure.

references only disclose that a trap is provided for collecting fluid from the nozzle, and that “the trap may be associated with a vacuum pump.” Thus, the references teach that fluid is collected in the trap, and presumably can thereafter be removed from the trap using the vacuum pump. The references do not disclose or suggest the particular claimed step of “drying ... by applying a vacuum to draw air past the pin”, as specified in independent claim 118. The cited ‘760 and Montagu references, by contrast, only teach discharging compressed air from the nozzle for drying the pin. The Examiner concedes in the office action that Montagu only teaches that “the purpose of the vacuum pump is to create a vacuum so that when a pin is washed the vacuum removes the wash fluid previously applied to the pin. Drying the pin is accomplished by an air current from the nozzle, supplemented by induced air flow 2% (col. 10, lines 1-34).” The office action therefore offers no explanation of how Applicants’ claimed vacuum is used to dry the pin.

Because Montagu fails to disclose or suggest “drying ... by applying a *vacuum* to draw air past the pin” as specified in independent claim 118, the rejection of claim 118 should be withdrawn. Claims 119-132 depend on claim 118 and are therefore also allowable over the cited references.

Claims 1-4, 6-18, and 102-133 are pending in the present application. As each of the claims is allowable over the cited references, withdrawal of the claim rejections is requested.

Respectfully submitted,



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